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(54) CUTTING TOOL HAVING CUTTING EDGE PART FORMED OF CUBIC BORON NITRIDE SINTERED SUBSTANCE

(57)Abstract:

PURPOSE: To improve toughness of a cutting edge part and to prevent the generation of a crack at an interface with a base metal part made of a cemented carbide alloy by a method wherein the average grain size of cBN of a cutting edge part and an intermediate part formed of a cubic boron nitride Sintered substance is set to a specified value, and the cutting edge part is formed of a cBN sintered substance.

CONSTITUTION: A cutting part is formed of a cubic boron nitride sintered substance of a composition consisting of 15-40 volume % a titanium carbide, a titanium nitride, a titanium carbon nitride, and a titanium boride as a coupling phase forming component, 5-30 volume % an aluminum oxide, and a remaining cubic boron nitride and inevitable impurities. An intermediate part is formed of a cubic boron nitride sintered substance of a composition consisting 10-50 volume % a titanium compound, 5-20% aluminum, and a V remaining cubic boron nitride and inevitable impurities. The cutting edge part is joined with a base metal part made of tungsten carbide cemented carbide alloy through the intermediate part to form a cutting tool. In the cutting tool, the average grain size of cubic carbon nitride of the cutting edge part is set to 2μm or less and the average grain size of cubic boron nitride of the intermediate is set to 2-10μm.

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